

## NOAA In Your State

# Virginia

**NOAA** is an agency that enriches life through science. Our reach goes from the surface of the sun to the depths of the ocean floor as we work to keep citizens informed of the changing environment around them. From daily weather forecasts, severe storm warnings, and climate monitoring to fisheries management, coastal restoration and supporting marine commerce, NOAA's products and services support economic vitality and affect more than one-third of America's gross domestic product. NOAA's dedicated scientists use cutting-edge research and high-tech instrumentation to provide citizens, planners, emergency managers and other decision makers with reliable information they need when they need it.

The following is a summary of NOAA facilities, staff, programs, or activities based in, or focused on, your state or territory: Starting with highlights, then by [congressional districts and cities or towns](#), [Chesapeake Bay programs](#), [coastal programs](#), and then [statewide programs](#).

### Highlights of NOAA in Virginia

<a href="#">Field Office</a>	Gloucester Point	VA-1
<a href="#">Chesapeake Bay-Virginia National Estuarine Research Reserve</a>	Gloucester Point	VA-1
<a href="#">Wallops Station</a>	Wallops Island	VA-2
<a href="#">NOAA @ Nauticus</a>	Norfolk	VA-2

The state of Virginia also has four Weather Forecasting Offices, two Labs and Field Offices, four Science on a Sphere® exhibitions, and one National Estuarine Research Reserves.

### **Weather Forecast Offices**

Wakefield VA-4  
Blacksburg VA-9  
Washington Metropolitan Area VA-10  
Sterling VA-10

**NWS Weather Forecast Offices (WFO)** are staffed around-the-clock every day and provide the best possible weather, water, and climate forecasts and warnings to residents of Virginia. Highly trained forecasters issue warnings and forecasts for events, including severe thunderstorms, tornadoes, winter storms, floods, and heat waves. This essential information is provided to the general public, media, emergency management and law enforcement officials, the aviation and marine communities, agricultural interests, businesses, and others. Information is disseminated in many ways, including through dedicated government channels, satellite, the Internet, and NOAA Weather Radio All Hazards. Forecasters also provide Impact-based Decision-Support Services (IDSS), both remotely and on-site, during critical emergencies, such as wildfires, floods, chemical spills, and for major recovery efforts. The WFO collects and disseminates precipitation, river, and rainfall data, and prepares local climatological data. Each WFO has a Warning Coordination Meteorologist who actively conducts outreach and educational programs, which helps build strong working relationships with local partners in emergency management, government, the media and academic communities. The WFO operates Automated Surface Observing Stations (ASOS), as well as the local Doppler Weather Radar, which provides critical information about current weather conditions. The radar data enables forecasters to issue warnings for tornadoes, severe thunderstorms, and flash floods.

---

### **Science On a Sphere®**

Wallops Island VA-2  
Richmond VA-2  
Danville VA-5  
Harrisonburg VA-6

**Science On a Sphere (SOS)** is a room-sized global display system that uses computers and video projectors to display planetary data onto a six-foot diameter sphere, analogous to a giant animated globe. Researchers at NOAA developed Science On a Sphere® as an educational tool to help illustrate Earth System science to people of all ages. Animated images of atmospheric storms, climate change, and ocean temperature can be shown on the sphere, which is used to explain in a way that is simultaneously intuitive and captivating what are sometimes complex environmental processes. They are located at the NASA Flight Facility Visitor Center in Wallops Island, the Science Museum of Virginia in Richmond, the Danville Science Center, and James Madison University in Harrisonburg.

---

### **VA- 1 Corbin**

#### **National Ocean Service (NOS) - Corbin Training Center**

The National Geodetic Survey (NGS) Corbin Training Center (CTC) provides high quality training on a variety of geodetic topics and applications to public, private, and international partners to improve their geodetic positioning capacity. The CTC has a classroom, which can be configured for various training needs. It is equipped with 15 workstations for

computer-based training, or the classroom can be arranged for lectures, discussion, and breakout groups. CTC has a full schedule of classes available for viewing on the website and request for new class topics are always considered.

**National Ocean Service (NOS) - [Instrumentation and Methodologies Branch](#)**

The National Geodetic Survey (NGS) Instrumentation and Methodologies Branch tests and evaluates geodetic instruments and equipment and assists in the preparation of standards and specifications for geodetic surveying techniques and technologies for use by all Federal agencies. The Branch develops and evaluates methods for determining instrumental capabilities. It develops methodologies and observing procedures for new technologies and instrumentation to meet stakeholder needs. The Branch provides training for Geodetic Advisors and instrument operators assigned to field units, as well as other agencies and foreign nationals.

**National Ocean Service (NOS) - [Remote Sensing LiDAR Test and Evaluation Site](#)**

A permanent airborne Light Detection and Ranging (LiDAR) test and evaluation site was installed at the National Geodetic Survey (NGS) Instrumentation & Methodologies Branch facility located in Corbin, Virginia. The site was created in collaboration with the National Geospatial-Intelligence Agency (NGA), and will allow NGA and others to easily access important information about the area and surrounding positional control. An interactive map of the test and evaluation site with various layers of information such as RGB (red, green, and blue bands), near-infrared and color-infrared imagery, as well as local NGS survey control are available here:

**[Gloucester Point](#)**

**National Marine Fisheries Service (NMFS) - [Field Office](#)**

This office reviews projects in Virginia, providing local support for NMFS' habitat conservation efforts. It provides consultative services for Federal activities and Federally permitted activities that could affect living marine resources or the habitats upon which they depend.

**National Ocean Service (NOS) - [Chesapeake Bay-Virginia National Estuarine Research Reserve](#)**

The 3,072 acre Chesapeake Bay-Virginia Research Reserve, designated in 1991 and managed by the College of William and Mary's Virginia Institute of Marine Science, features four components, all within the York River basin: the Goodwin Islands, Catlett Islands, Taskinas Creek, and Sweet Hall Marsh. These components represent habitats along the river's salinity gradient, including salt-water and freshwater marshes, submerged aquatic vegetation, upland forests, beaches, and open water. Migratory birds, sea grasses, and many commercially important fish and shellfish are found within the reserve. Educational opportunities are provided for local students, state agencies, and citizens groups.

**National Ocean Service (NOS) – [Margaret A. Davidson Graduate Fellowship](#)**

The Margaret A. Davidson Graduate Fellowship program funds graduate student research and professional development opportunities within the National Estuarine Research Reserve System. The program supports collaborative research addressing local management challenges that may influence future policy and management strategies. The Davidson Fellow at the Chesapeake Bay-Virginia National Estuarine Research Reserve will focus their research on composition and short-term fate of dissolved organic carbon in tidal marsh soils.

**[Newport News](#)**

**National Ocean Service (NOS) - [Monitor National Marine Sanctuary](#)**

In 1975 NOAA designated, as its first national marine sanctuary, the site of the wreckage of the USS *Monitor*, a Civil War vessel that lies off the coast of North Carolina. The *Monitor* was the prototype for a class of US Civil War ironclad warships that significantly altered both naval technology and marine architecture in the 19th century. In March 1862, the ship fought the CSS *Virginia* in the Battle of Hampton Roads. On December 31, 1862, while being towed to Beaufort, N.C., the *Monitor* encountered a great gale and sank. For over a century, the *Monitor* laid undiscovered and protected by nature off Cape Hatteras, but in August of 1973, scientists located the *Monitor*. Various historically iconic artifacts from the

shipwreck, such as the rotating gun turret, engine, condenser, propeller, and numerous smaller pieces were recovered between 1998 and 2002. These artifacts are being conserved in Newport News, Va. at The Mariners' Museum's Batten Conservation Laboratory. Many of the artifacts are out of conservation and on display in the museum's *Monitor* Center. The *Monitor* NMS also works closely with its partners and school districts to support science, technology, engineering, and math education throughout the region. In order to better address current management issues, the sanctuary relies on input from a citizen advisory council representing sanctuary constituent groups who provide advice on sanctuary activities and management actions. By addressing the current issues and anticipating future challenges, we strive to preserve and protect our Nation's maritime heritage for this and future generations.

**National Ocean Service (NOS) – [Treasures of NOAA's Ark](#) (traveling exhibit)**

The Treasures of NOAA's Ark traveling exhibit showcases an array of heritage artifacts which tell the story of how the people, technology and resources shaped NOAA and its predecessor agencies over the past two decades. NOAA's responsibilities include preserving, protecting and promoting its own heritage while at the same time sharing this history with the public through innovative programs. From 19<sup>th</sup> century maps to nautical charts and early scientific instruments, the exhibit recalls NOAA's proud heritage and legacy of service by exploring the themes of history, weather, navigation and fisheries to better understand the land, sea and sky. With a blend of art and science, there is something of interest for everyone. Beginning March 1, 2017 the exhibit will be hosted by The Mariners' Museum in Newport News, Virginia through the end of the calendar year.

**[Tidewater Region Cities](#)**

**National Ocean Service (NOS) - [National Water Level Observation Network](#)**

The National Ocean Service (NOS) operates seven long-term continuously operating tide stations in the state of Virginia that provide data and information on tidal datum and relative sea level trends, and are capable of producing real-time data for storm surge warning. These stations are located at Wachapreague, Kiptopeke Beach, Dahlgren, Lewisetta, Yorktown (USCG Training Center), Sewells Point, and Chesapeake Bay Bridge Tunnel. Each station is associated with a set of tidal benchmarks installed in the ground that is used to reference the height of the water levels and helps connect the water level to land.

**[VA- 2](#)**

**[Cape Charles](#)**

**Office of Oceanic and Atmospheric Research (OAR) - [U.S. Climate Reference Network](#)**

The US Climate Reference Network (USCRN) is an operationally viable research network of more than 138 climate stations that are deployed nationwide. Data from the USCRN are used in various climate monitoring activities and for placing current climate anomalies into an historical perspective. The USCRN provides the United States with a reference network that contributes to an International network under the auspices of the Global Climate Observing System (GCOS). ARL/ATDD manages the USCRN in partnership with NOAA's NESDIS/NCEI.

**[Newport News](#)**

**National Marine Fisheries Service (NMFS) - [Office of Law Enforcement](#)**

NOAA's Office of Law Enforcement is the only conservation enforcement program (Federal or State) that is exclusively dedicated to Federal fisheries and marine resource enforcement. Its mission is to protect global marine resources by enforcing domestic laws and international treaties and obligations dedicated to protecting wildlife and their natural habitat. Our special agents and enforcement officers ensure compliance with these laws and take enforcement action if there are violations. Additionally, the Cooperative Enforcement Program allows NOAA the ability to leverage the resources and assistance of 27 coastal states and U.S. territorial marine conservation law enforcement agencies in direct support of the Federal enforcement mission. Effective fisheries law enforcement is critical to creating a level playing field for U.S. fishermen and enabling sustainable fisheries to support vibrant coastal communities. The Office of Law Enforcement's Northeast Division is headquartered in Gloucester, MA, with a field office in Newport News, VA.

## **Wallops Island**

### **National Environmental Satellite, Data, and Information Service (NESDIS) - [Office of Satellite and Product Operations](#) - [Wallops Station](#)**

The Wallops Command and Data Acquisition (CDA) Station is responsible for ensuring scheduled data flow from NOAA GOES, LEO, and Space Weather satellites to designated user subsystems. The Wallops CDA Station executes spacecraft commands and schedules. It acquires, maintains, and distributes a continuous flow of meteorological satellite data. This station provides the communication link between low earth orbiting and geostationary, and sun synchronous environmental weather satellites and the ground station. It sends commands and receives transmissions from the satellites. The Wallops CDA Station has eleven primary antenna systems, which send functional commands to the satellites, and perform primary data acquisition and preliminary processing. The Wallops CDA Station provides product distribution functions for the generation, formatting, and distribution of sectorized products to the National Weather Service. The information is distributed to all weather offices and facilities to track and evaluate significant weather events and prepare warnings and forecasts. The Station assists in developing emergency procedures to safeguard spacecraft health and safety; and executes emergency plans independently in the event of a communications outage with the NESDIS Satellite Operations Control Center, located in Suitland, Maryland.

### **Chief Information Officer (CIO) - [N-Wave NOAA Science Network](#)**

N-Wave is NOAA's science network connecting NOAA, academic, and state research network communities to data and resources needed to advance environmental science.

### **Office of Oceanic and Atmospheric Research (OAR) - [Science On a Sphere® at NASA Flight Facility Visitor Center](#)**

Science On a Sphere® (SOS) is a room-sized global display system that uses computers and video projectors to display planetary data onto a six-foot diameter sphere, analogous to a giant animated globe. Researchers at NOAA developed Science On a Sphere® as an educational tool to help illustrate Earth System science to people of all ages. Animated images of atmospheric storms, climate change, and ocean temperature can be shown on the sphere, which is used to explain complex environmental processes in a way that is simultaneously intuitive and captivating.

### **Office of Oceanic and Atmospheric Research (OAR) - [Total Column Ozone Measurements](#)**

NOAA's Earth System Research Laboratory Global Monitoring Laboratory (ESRL/GML) makes measurements of the column amounts of ozone between the earth's surface and the top of the atmosphere at a number of locations around the United States, including Wallops Island, VA. The observations are obtained with ground-based spectrometers that measure the attenuation by ozone of ultraviolet light. These observations represent NOAA global stratospheric ozone network and are used to track recovery of stratospheric ozone layer in compliance with the USA Clean Air act of 1990. This integrated ozone amount is critical in determining the amount of ultraviolet radiation reaching the earth's surface. Excess ultraviolet radiation is responsible for human skin cancer and is also harmful to other biogenic organisms. Column ozone measurements monitor changes in the stratospheric ozone layer resulting from human-produced chlorine and bromine compounds that destroy ozone. With controls now in place on the manufacture and use of these ozone-destroying compounds, it will be important to monitor the ozone layer for the expected recovery and determine whether other factors such as long-term climate change are influencing this recovery.

## **Hampton**

### **National Marine Fisheries Service (NMFS) - Port Agent [Field Office](#)**

The Greater Atlantic Region's Port Agent Team works directly with the fishing industries of the region to provide in-person advice and support to fishermen and seafood dealers. Port agents also serve as a conduit for industry to relay information to the Regional Administrator and other NOAA staff about fishing industry concerns, thoughts and activities. Team members assist seafood dealers and vessel operators and owners with data reporting requirements, in navigating the permitting process, and with other Agency regulations and processes. They collect biological samples of seafood landed

by commercial fishermen for use in fisheries stock assessments. They also provide the general public with information on fisheries and the marine environment by attending public events and through ad-hoc interactions.

**National Marine Fisheries Service (NMFS) - [Inspection Office](#)**

NOAA's Seafood Inspection Program conducts a voluntary inspection program for fishery products on a fee-for-service basis. The Program offers a wide range of services to the area's fishermen, fish processors and fish brokers including process and product inspection, product grading, lot inspection, laboratory analysis, and training. All edible foodstuffs, ranging from whole fish to formulated products, as well as fishmeal used for animal foods, are eligible for inspection and certification.

**[Norfolk](#)**

**Acquisition and Grants Office (AGO) - [Eastern Acquisition Division](#)**

The Acquisition and Grants Office provides financial assistance and acquisition services for NOAA by overseeing and implementing all processes related to contracts and grants. FY 2010, NOAA issued 2,306 grants, totaling over \$1.061 billion, to partner organizations and institutions throughout the United States and our territories.

**National Ocean Service (NOS) - [Atlantic Hydrographic Branch](#)**

The Atlantic Hydrographic Branch (AHB) is co-located with the Atlantic Marine Center in Norfolk, Virginia. AHB manages the office processing of hydrographic survey data acquired by NOAA hydrographic vessels, Navigation Response Teams, and performs contract oversight for hydrographic surveys conducted under contract. The Branch serves as the contact for East Coast, Gulf Coast and Great Lakes hydrographic survey requests and data processing, and verifies, evaluates, and analyzes acquired survey data. The NOAA Ships *Thomas Jefferson* and *Ferdinand R. Hassler*, as well as the survey vessel *Bay Hydro II* conduct the hydrographic surveys analyzed by AHB and then AHB produces final survey data, significant features and soundings for display on nautical charts and related products to support safe navigation on the East and Gulf coasts.

**National Ocean Service (NOS) - [Geodetic Field Operations Branch](#)**

Field Operations Branch personnel conduct geodetic surveys to support the National Spatial Reference System, shoreline mapping, nautical and aeronautical charting, and hydrography. Many of these surveys provide information that is incorporated into the National Airspace System in accordance with specifications of the Federal Aviation Administration. The Branch coordinates survey activities with other Federal, state, and local governments having interests in particular projects. The Branch supports NOAA's ship-based personnel by providing training in geodetic survey techniques and sometimes through performance of the surveys themselves. The Branch performs many different types of geodetic surveys for: crustal motion, airport obstructions, airport navigational aids, tidal datum's, and other special purposes.

**National Ocean Service (NOS) - Office of Coast Survey - [Navigation Manager](#)**

NOAA's navigation managers work directly with pilots, port authorities, and recreational boating organizations in the mid-Atlantic region. They help identify the navigational challenges facing marine transportation in Virginia and provide NOAA's resources and services that promote safe and efficient navigation. Navigation managers are on call to provide expertise and NOAA navigation response coordination in case of severe coastal weather events or other marine emergencies. The Office of Coast Survey has a navigation manager in Norfolk, Virginia co-located at the Atlantic Hydrographic Branch to support mariners and stakeholders in the Mid-Atlantic region.

**NOAA-wide - [NOAA @ Nauticus](#)**

NOAA @ Nauticus is a partnership between NOAA and Nauticus, the National Maritime Center, located on the City of Norfolk's waterfront. Nauticus attracts over 300,000 visitors a year with special programs and exhibits focused on exploring the power of the sea. Working together, NOAA and Nauticus are implementing outreach and education



programs and exhibits such as NOAA's Science on a Sphere® that will help achieve NOAA's overall mission priority of improving scientific and environmental literacy.

**Office of the Chief Information Officer (OCIO) - [Service Delivery Division](#)**

The Service Delivery Division provides a suite of IT services to support NOAA's mission. Our work includes IT infrastructure design and maintenance, network and server management and administration, desktop configuration and maintenance, application and system design and implementation, and IT security.

**Office of Marine and Aviation Operations (OMAO) - [Marine Operations Center- Atlantic](#) and the [NOAA Ship Thomas Jefferson](#)**

The Marine Operations Center-Atlantic (MOC-A) serves as homeport to the NOAA Ship *Thomas Jefferson*. MOC-A also provides regional management to NOAA Ships on the East Coast, supporting the *Ronald H. Brown* and *Nancy Foster* in Charleston, South Carolina; the *Ferdinand R. Hassler* in New Castle, New Hampshire; the *Henry B. Bigelow* and *Okeanos Explorer* in Newport, Rhode Island; and the *Oregon II*, *Pisces*, and *Gordon Gunter* in Pascagoula, Mississippi. These NOAA vessels primarily operate in the Atlantic and Pacific Oceans, the Gulf of Mexico, and the Caribbean, performing research that supports the work of all NOAA line offices. The *Ronald H. Brown* also operates worldwide. The NOAA Ship *Thomas Jefferson* operates in the North Atlantic conducting hydrographic survey missions for the National Ocean Service. All vessels support NOAA's mission to protect, restore, and manage the use of coastal and ocean resources through an ecosystem approach to management.

NOAA vessels are operated under the direction of officers from the NOAA Commissioned Officer Corps in concert with NOAA civilian Wage Mariners. The NOAA Corps today provides a cadre of professionals trained in engineering, earth sciences, oceanography, meteorology, fisheries science, and other related disciplines. Officers operate ships, fly aircrafts, conduct diving operations, and serve in other NOAA staff positions. NOAA Wage Mariners perform the deck, engineering, steward, and survey tech functions aboard NOAA vessels, providing critical support to OMAO marine operations.

NOAA Commissioned Officer Corps (NOAA Corps) - Atlantic Hydrographic Operations and Safety Management  
The NOAA Commissioned Officer Corps stations multiple officers in Norfolk, VA in addition to the command at the Marine Operations Center, Atlantic. These officers fill various roles, primarily focused on hydrographic operations and safety management. In these roles, officers lead field operations to collect hydrographic data for navigation products, plan and manage the Mid-Atlantic Navigation programs and forward facing representation of the Office of Coast Survey, Direct Atlantic hydrographic operations as a whole, and staff the Safety Management Branch for Marine Operations to serve as Fleet Representative for Executive Officers. As a central location for operations, Norfolk is a crossroads for NOAA Corps functions critical to the safe use of Virginia waterways by public and private mariners alike.

**Workforce Management Office (WFMO) - [Norfolk Office](#)**

The Workforce Management Office (WFMO) provides NOAA-wide leadership to workforce management functions including strategic human capital planning, labor-management, about labor relations, employee relations, performance management, and incentive awards, executive resources, distance learning, leadership development, training and career development, and human resources data management and automation initiatives. The Workforce Management Office employees in the Norfolk Office provide client centric human resources operational support to the National Weather Service's Headquarters and Eastern Region, National Ocean Service, and Office of Oceanic and Atmospheric Research.

**VA- 3**

**NOAA Office of Education - [Environmental Literacy Program](#)**

NOAA's Environmental Literacy Program (ELP), administered by the Office of Education, provides grants and in-kind support to advance NOAA's mission through formal (K-12) and informal education. In Virginia, ELP supports the Nauticus Museum (Norfolk City), which has a permanent exhibit featuring NOAA's Science On a Sphere (SOS) and is a member of

NOAA's SOS Users Collaborative Network (SOS Network). The SOS Network connects over 150 science education institutions worldwide to the latest NOAA data as part of a focused effort to increase environmental literacy at all ages.

#### VA- 4

##### **Chesapeake**

##### **National Ocean Service (NOS) - [Center for Operational Oceanographic Products and Services](#)**

The CO-OPS Chesapeake Facility operates and maintains the East Coast and Great Lakes portion of the National Water Level Observation Network (NWLON) for the collection, analysis and dissemination of water level observations and long-term sea level trends. NWLON is nationally composed of 210 primary and long-term control tide stations, which provide basic tidal data for U.S. coastal and marine boundaries and for charting data. Other uses range from storm surge warnings to commercial and recreational vessel navigation to global climate change and tectonic studies.

##### **Richmond**

##### **Office of Oceanic and Atmospheric Research (OAR) - [Science On a Sphere® at the Science Museum of Virginia](#)**

Science On a Sphere® (SOS) is a room-sized global display system that uses computers and video projectors to display planetary data onto a six-foot diameter sphere, analogous to a giant animated globe. Researchers at NOAA developed Science On a Sphere® as an educational tool to help illustrate Earth System science to people of all ages. Animated images of atmospheric storms, climate change, and ocean temperature can be shown on the sphere, which is used to explain complex environmental processes in a way that is simultaneously intuitive and captivating.

##### **NOAA Office of Education - [Environmental Literacy Program](#)**

NOAA's Environmental Literacy Program (ELP), administered by the Office of Education, provides grants and in-kind support to advance NOAA's mission through formal (K-12) and informal education. In Virginia, ELP funded the Science Museum of Virginia (Richmond City) to build the environmental literacy of children, youth, and adults so they are knowledgeable of the ways in which their community can become more resilient to extreme weather, climate change, and other environmental hazards, and become involved in achieving that resilience. The funded project helps youth and adult learners from Richmond to explore environmental hazards (i.e., flooding and extreme heat); assess their vulnerability and risks; investigate options; prioritize and plan local resilience-building strategies; and take action by implementing and sustaining projects in the community with local project partners. ELP also supports the Science Museum of Virginia, which has a permanent exhibit featuring NOAA's Science On a Sphere (SOS) and is a member of NOAA's SOS Users Collaborative Network (SOS Network). The SOS Network connects over 150 science education institutions worldwide to the latest NOAA data as part of a focused effort to increase environmental literacy at all ages.

##### **Wakefield**

##### **National Weather Service (NWS) - [Weather Forecast Office](#)**

#### VA- 5

##### **Charlottesville**

##### **Office of Oceanic and Atmospheric Research (OAR) - [U.S. Climate Reference Network](#)**

The US Climate Reference Network (USCRN) is an operationally viable research network of more than 138 climate stations that are deployed nationwide. Data from the USCRN are used in various climate monitoring activities and for placing current climate anomalies into an historical perspective. The USCRN provides the United States with a reference network that contributes to an International network under the auspices of the Global Climate Observing System (GCOS). ARL/ATDD manage the USCRN in partnership with NOAA's NESDIS/NCEI.

##### **Danville**

##### **Office of Oceanic and Atmospheric Research (OAR) - [Science On a Sphere® at the Danville Science Center](#)**



Science On a Sphere (SOS) is a room-sized global display system that uses computers and video projectors to display planetary data onto a six foot diameter sphere, analogous to a giant animated globe. Researchers at NOAA developed Science On a Sphere® as an educational tool to help illustrate Earth System science to people of all ages. Animated images of atmospheric storms, climate change, and ocean temperature can be shown on the sphere which is used to explain complex environmental processes in a way that is simultaneously intuitive and captivating.

**NOAA Office of Education - [Environmental Literacy Program](#)**

NOAA's Environmental Literacy Program (ELP), administered by the Office of Education, provides grants and in-kind support to advance NOAA's mission through formal (K-12) and informal education. In Virginia, ELP supports the Danville Science Center (Danville City), which has a permanent exhibit featuring NOAA's Science On a Sphere (SOS) and is a member of NOAA's SOS Users Collaborative Network (SOS Network). The SOS Network connects over 150 science education institutions worldwide to the latest NOAA data as part of a focused effort to increase environmental literacy at all ages.

**VA- 6**

**[Harrisonburg](#)**

**Office of Oceanic and Atmospheric Research (OAR) - [Science On a Sphere® at James Madison University](#)**

Science On a Sphere® (SOS) is a room-sized global display system that uses computers and video projectors to display planetary data onto a six-foot diameter sphere, analogous to a giant animated globe. Researchers at NOAA developed Science On a Sphere® as an educational tool to help illustrate Earth System science to people of all ages. Animated images of atmospheric storms, climate change, and ocean temperature can be shown on the sphere, which is used to explain complex environmental processes in a way that is simultaneously intuitive and captivating.

**NOAA Office of Education - [Environmental Literacy Program](#)**

NOAA's Environmental Literacy Program (ELP), administered by the Office of Education, provides grants and in-kind support to advance NOAA's mission through formal (K-12) and informal education. In Virginia, ELP supports the James Madison University (Harrisonburg City), which has a permanent exhibit featuring NOAA's Science On a Sphere (SOS) and is a member of NOAA's SOS Users Collaborative Network (SOS Network). The SOS Network connects over 150 science education institutions worldwide to the latest NOAA data as part of a focused effort to increase environmental literacy at all ages.

**[Shenandoah National Park](#)**

**Office of Oceanic and Atmospheric Research (OAR) - [Tall Tower Carbon Measurements](#)**

NOAA's Earth System Research Laboratory Global Monitoring Laboratory (ESRL/GML) operates trace gas monitoring sites at tall television transmitter towers, and other towers, in eight states, including Virginia. The sites were established to extend ESRL/GML's monitoring network into the interior of North America in order to provide data to aid estimation of the net carbon balance of the continent. Variations of trace gases, especially carbon dioxide (CO<sub>2</sub>), are largest near the ground, so existing tall (> 400 meters) transmitter towers are utilized as platforms for in situ and flask sampling for atmospheric trace gases. The tower site in Virginia is operated in Shenandoah National Park by the University of Virginia.

**VA- 8**

**[Arlington](#)**

**Office of Oceanic and Atmospheric Research (OAR) - [Mid-Atlantic Regional Integrated Sciences and Assessments](#)**

The Mid-Atlantic Regional Integrated Sciences and Assessments (MARISA) is a cooperative agreement between NOAA's Climate Program Office (CPO) and RAND Corporation. It is one of several Regional Integrated Sciences and Assessments (RISA) teams contributing to the development of knowledge, expertise, and abilities of decision-makers to plan and prepare for climate variability and change. MARISA was established in September 2016 and has an overarching

mission to support integrated, flexible processes for building adaptive capacity to climate variability and change in diverse settings in the Mid-Atlantic region, with an initial focus on the Chesapeake Bay Watershed. Building on decades of research in this region, MARISA emphasizes use-inspired research that integrates social and physical science methods to generate, analyze, and translate climate information at multiple spatial and temporal scales for diverse stakeholders. MARISA focuses on five objectives: (1) assess climate risks, uncertainties, and vulnerabilities; (2) support adaptation planning, decision making, and adaptive management by connecting existing models and data to better understand options for improved water quality, best management practices, flood risk, and erosion reduction; (3) support regional climate assessments and services and develop research-to-operations decision-support tools; (4) train a new generation of leaders in climate change adaptation and risk management; and (5) advance program performance through measurements and evaluation of MARISA's impacts. Core partners of MARISA include the RAND Corporation, Penn State University, Johns Hopkins University, and Cornell University.

#### **VA- 9**

##### ***Blacksburg***

**National Weather Service (NWS) - [Weather Forecast Office](#)**

#### **VA-10**

##### ***Sterling***

**Office of Oceanic and Atmospheric Administration (OAR) - [Surface Radiation Measurement Network](#)**

NOAA's Earth System Research Laboratory Global Monitoring Division (ESRL/GMD) operates surface-based radiation monitoring sites in seven states. ESRL's Integrated Surface Irradiance Study (ISIS) monitoring network is based in the continental United States and is in collaboration with NOAA's SURFRAD Network.

##### ***Washington Metropolitan Area***

**National Weather Service (NWS) - [Center Weather Service Unit](#)**

NOAA's Earth System Research Laboratory Global Monitoring Laboratory (ESRL/GML) operates surface-based radiation monitoring sites in seven states. ESRL/GML's Surface solar radiation (SOLRAD) monitoring network is based in the continental United States and is a collaboration with NOAA's SURFRAD Network.

**National Weather Service (NWS) - [Weather Forecast Office](#)**

Located at the NWS Research and Development Center at Dulles International Airport in Sterling, this NWS Weather Forecast Office (WFO) provides the best possible weather, water, and climate forecasts and warnings for residents of the District of Columbia, much of Maryland, the northern third of Virginia, and the eastern panhandle of West Virginia. This office also issues marine and coastal waters forecasts for the tidal Potomac and Chesapeake Bay. Highly trained forecasters issue warnings and forecasts for events, including severe thunderstorms, tornadoes, winter storms, floods, and heat waves. This essential information is provided to the general public, media, emergency management and law enforcement officials, the aviation and marine communities, agricultural interests, businesses, and others. Information is disseminated in many ways, including through dedicated government channels, satellite, the Internet, and NOAA Weather Radio All Hazards.

Forecasters also provide Impact-based Decision-Support Services (IDSS), both remotely and on-site, during critical emergencies, such as wildfires, floods, chemical spills, and for major recovery efforts such as those following the Joplin and Moore tornadoes, Hurricanes Katrina and Sandy, and the Sept. 11, 2001, terrorist attacks in New York City and Washington D.C. The WFO collects and disseminates precipitation, river, and rainfall data, and prepares local climatological data. Each WFO has a Warning Coordination Meteorologist who actively conducts outreach and educational programs, which helps build strong working relationships with local partners in emergency management, government, the media and academic communities. The WFO operates Automated Surface Observing Stations (ASOS),

as well as the local Doppler Weather Radar, which provides critical information about current weather conditions. The radar data enables forecasters to issue warnings for tornadoes, severe thunderstorms, and flash floods.

#### **National Ocean Service (NOS) - Students for [Zero Waste Week](#)**

Students are inviting their local communities to "Go Green and Think Blue" by joining them in the annual *Students for Zero Waste Week campaign*. During this campaign led by the Office of National Marine Sanctuaries, students focus on reducing land-based waste in order to protect the health of local marine environments. These young leaders are raising awareness of how single-use plastic and other types of litter affect the health of local watersheds, national marine sanctuaries, and the ocean. In addition, some schools are looking at ways to reduce their energy use on campus with hopes of raising awareness of how the burning of fossil fuels also impacts the health of the ocean.

---

#### **[Chesapeake Bay Region](#)**

##### **National Marine Fisheries Service (NMFS) - [Chesapeake Bay Interpretive Buoy System](#)**

The NOAA Chesapeake Bay Office operates and maintains "smart buoys" in key locations throughout Virginia's portion of the Chesapeake Bay including the Elizabeth River (Norfolk), the James River (Jamestown), the Rappahannock River (Deltaville), and the mouth of the Bay (near Virginia Beach). Additional buoys—including the Upper Potomac (Washington, D.C.) and Potomac (Point Lookout buoy)—are frequently used by Virginia residents. These buoys provide real-time meteorological, oceanographic, and water-quality data available on the web, at a mobile version of the website, by calling toll-free 877-BUOY-BAY or using free mobile apps available for Android and iPhone smartphones. The ten Chesapeake Bay Interpretive Buoy System buoys also mark and interpret points along the Captain John Smith Chesapeake National Historic Trail and serve as an important component of the Chesapeake Bay Observing System.

##### **National Marine Fisheries Service (NMFS) - [NOAA Chesapeake Bay Office](#)**

The NOAA Chesapeake Bay Office within the Office of Habitat Conservation is headquartered in Annapolis, Maryland. The office uses science, service, and stewardship to improve the health of the Chesapeake Bay and ensure its sustainable use for generations to come. Our work includes habitat science, oyster restoration, sustainable fisheries, climate resiliency; and environmental literacy. We administer cooperative programs on Ecosystem Science, Coastal and Living Resource Management, and Environmental Literacy; supports Bay-wide fisheries research and oyster restoration; provides blue crab stock assessment to state fisheries managers; operates and maintains the Chesapeake Bay Interpretive Buoy System; co-leads NOAA's Choptank River Habitat Focus Area, and supports broad federal involvement in environmental education in the region, including managing the Chesapeake Bay Watershed Education and Training (B-WET) grant program. The office also manages the NOAA Environmental Science Training Center, co-located at the NOS Oxford Lab, which offers workshops and webinars for educators. A field agent of the Chesapeake Bay Office is located in Norfolk, Virginia at the NOAA Marine Operations Center - Atlantic (see entry below). The NOAA Chesapeake Bay Office also coordinates NOAA's efforts to implement the 2014 Chesapeake Bay Watershed Agreement in partnership with the Chesapeake Bay Program.

##### **National Marine Fisheries Service (NMFS) - [BayWatershed Education and Training Program](#)**

The NOAA Bay Watershed Education and Training (B-WET) program is an environmental education program that promotes locally relevant, experiential learning in the K-12 environment. The NOAA Chesapeake Bay Office, a division of NOAA Fisheries' Office of Habitat Conservation, administers B-WET grants for the Chesapeake Bay watershed on behalf of the NOAA Office of Education. The primary delivery of B-WET is through competitive funding that promotes systemic Meaningful Watershed Educational Experiences (MWEEs). The Chesapeake B-WET program recognizes that knowledge and commitment built from firsthand experience, especially in the context of one's community and culture, is essential for achieving environmental stewardship. Chesapeake B-WET responds to regional education and environmental priorities through local implementation of competitive grant funds and is supportive of partnerships between school districts and

community organizations and institutions that are run by and/or serve marginalized groups, particularly minority communities.

**National Marine Fisheries Service (NMFS) - [Cooperation with States Program](#) and [Species Recovery Grants](#)**

Under the authority of section 6 of the Endangered Species Act, the Cooperation with States Program brings states, NMFS, and other partners together to recover threatened and endangered species. Competitive grants are awarded to states through the Species Recovery Grants to States Program to support management, monitoring, research and outreach efforts for species that spend all or a portion of their life cycle in state waters. The funded work is designed to prevent extinctions or reverse the decline of species, and restore ecosystems and their related socioeconomic benefits. Twenty-five coastal states, including Virginia and U.S. territories currently participate in this program. To date, the Virginia Department of Game and Inland Fisheries has received multiple awards through this program, including grants to support projects focused on Atlantic sturgeon and sea turtles.

**National Marine Fisheries Service (NMFS) - [Sea Turtle Salvage and Stranding Network](#)**

The Sea Turtle Stranding and Salvage Network (STSSN) was formally established in 1980 to collect information on and document strandings of marine turtles along the U.S. Gulf of Mexico and Atlantic coasts. The network, which includes federal, state and private partners, encompasses the coastal areas of the eighteen-state region from Maine to Texas, and includes portions of the U.S. Caribbean. Data gathered by the Network helps inform bycatch reduction efforts, monitor factors affecting turtle health, and provide other information needed for sea turtle management and population recovery.

**National Marine Fisheries Service (NMFS) - [National Marine Mammal Stranding Network](#) and [John H. Prescott Marine Mammal Rescue Assistance Grant Program](#)**

The National Marine Mammal Stranding Network and its trained professionals respond to dead or live marine mammals in distress that are stranded, entangled, out of habitat or otherwise in peril. Our long-standing partnership with the Network provides valuable environmental intelligence, helping NOAA establish links among the health of marine mammals, coastal ecosystems, and coastal communities as well as develop effective conservation programs for marine mammal populations in the wild. There is one stranding network member in the state.

NOAA Fisheries funds eligible members of the Stranding Network through the competitive John H. Prescott Marine Mammal Rescue Assistance Grant Program. For fiscal year 2020, 43 competitive Prescott Grants were awarded for a total of \$3.7 million nationwide, including one for \$98,142 to Virginia Aquarium and Marine Science Center Foundation.

**National Ocean Service (NOS) - [Chesapeake Bay South PORTS®](#)**

A Physical Oceanographic Real-Time System (PORTS®) is operated cooperatively with the local maritime community in the Lower Chesapeake Bay at which real-time data are quality-controlled and disseminated to local users for safe and efficient navigation. Real-time data are available for water levels from five stations, tidal currents from six stations, wave observations from 2 locations and meteorological observations from ten locations.

---

***Coastal***

**National Marine Fisheries Service (NMFS) - [Deep-Sea Coral Research and Technology Program](#)**

NOAA's Deep Sea Coral Research and Technology Program is the only federal program dedicated to mapping, characterizing, and understanding deep-sea coral ecosystems, and sharing the information needed to conserve these habitats. The Program -- called for in the reauthorization of the Magnuson-Stevens Fishery Conservation and Management Act and within the Office of Habitat Conservation -- is working with other NOAA offices and external partners to conduct fieldwork to study the distribution, abundance, and diversity of deep sea corals and sponges. Since 2009, more

than 42,500 square miles of seafloor have been mapped and surveyed for deep-sea coral habitats from Florida to Maine, in Alaska and the West Coast, and in Hawaii and the Marianas Trench.

**National Ocean Service (NOS) – [National Coastal Zone Management Program](#)**

Through a unique federal-state partnership, NOAA's Office for Coastal Management works with the Virginia Department of Environmental Quality to implement the National Coastal Zone Management Program in Virginia. NOAA provides the state coastal management program with financial and technical assistance to further the goals of the Coastal Zone Management Act and ensure coastal waters and lands are used in a balanced way to support jobs, reduce use conflicts, and sustain natural resources.

**National Ocean Service (NOS) – [Digital Coast](#)**

The Digital Coast is a focused information resource developed to meet the unique needs of coastal communities. Developed and maintained by NOAA's Office for Coastal Management, content comes from hundreds of organizations, including federal, state, and local agencies, plus private sector and non-profit contributors. The Digital Coast website provides not only site-specific coastal data, but also related the tools, training, and information needed to make these data useful for coastal decision makers.

**National Ocean Service (NOS) – [National Coastal Resilience Fund](#)**

The National Coastal Resilience Fund is a partnership effort between NOAA and the National Fish and Wildlife Foundation (NFWF) to restore, increase, and strengthen natural infrastructure to protect coastal communities, while also enhancing habitat for fish and wildlife. In Virginia, the NCRF awarded three projects in FY18, one in FY19, and two in FY20.

**National Ocean Service (NOS) – [Emergency Coastal Resilience Fund](#)**

The Emergency Coastal Resilience Fund is a partnership effort between NOAA and the National Fish and Wildlife Foundation (NFWF) to increase the resilience of coastal communities within areas affected by Hurricanes Florence and Michael, Typhoon Yutu, and the coastal California wildfires in 2018. Virginia received funds to assist homeowners in Mathews County through the Fight the Flood program to design, permit, install and monitor living shorelines that meet Federal Emergency Management Agency storm event standards.

**National Ocean Service (NOS) – [Mid-Atlantic Committee on the Ocean](#)**

The Mid-Atlantic Committee on the Ocean (MACO) is a committee established by the [Mid-Atlantic Regional Council for the Ocean](#) (MARCO) to foster collaboration among states, federal agencies, the Mid-Atlantic Fishery Management Council, and federally recognized tribes to enhance the vitality of the region's ocean ecosystem and economy through increased communication and collaboration. To maintain quality constituent service, staff from NOAA Office for Coastal Management lead NOAA's engagement with MACO, MARCO and state coastal management programs to improve the delivery of NOAA products and services in this region.

**National Ocean Service (NOS) - Coastal and Estuarine Land Conservation Program**

The Coastal and Estuarine Land Conservation Program brings conservation partners together to protect coastal and estuarine lands considered important for their ecological, conservation, recreational, historical, or aesthetic values. Subject to availability of funding, the program provides state and local governments with matching funds to purchase coastal and estuarine lands or obtain conservation easements for important lands threatened by development. Since 2002, the program has protected more than 110,000 acres of coastal land nationally, including over 16,000 acres protected as in-kind matching contributions. NOAA awarded eight grants in Virginia, and these lands are protected in perpetuity.

**National Ocean Service (NOS) - [Scientific Support Coordinator and Regional Resource Coordinator](#)**



NOAA's Office of Response and Restoration (OR&R) brings decades of experience, technical expertise and scientific analysis in response to oil and hazardous chemical spills. In addition to events that draw the national eye like Hurricane Sandy, OR&R also supports response to local emergencies. Eleven regionally based Scientific Support Coordinators (SSCs) harness the input of a multi-disciplinary team to address issues such as oil slick trajectory forecasting, environmental tradeoffs, best practices, resources at risk, oil science and properties, and chemical hazard assessment to reduce risks to coastal habitats and resources. The SSC works directly with the U.S. Coast Guard and the U.S. Environmental Protection Agency to provide critical scientific support to the Federal On-Scene Coordinator. OR&R also helps develop preparedness plans that identify spill response actions with the greatest environmental benefit, and trains hundreds of members of the response community each year on the scientific and technical aspects of spills. OR&R's Regional Resource Coordinators (RRCs) provide scientific and technical expertise and timely response to oil spills or hazardous materials releases to collect information, samples, and evidence that are time dependent and critical to support natural resource damage assessments throughout the coastal US. RRCs work on multi-disciplinary scientific, economic, and legal teams and are responsible for determining and quantifying injuries to NOAA trust natural resources through determination of injuries and pathway, and demonstration of causal mechanisms. The goal of the RRCs efforts is to determine, often through the Damage Assessment, Remediation, and Restoration Program, the appropriate amount and type of restoration required to restore injured NOAA trust resources and compensate the public for their lost use. To date, DARRP and co-trustees have recovered almost \$2M for restoration of natural resources injured by oil spill and waste site releases in Virginia.

#### **National Ocean Service (NOS) - [Atlantic Environmental Response Management Application](#)**

Assessing important spatial information and designing successful restoration projects rely upon interpreting and mapping geographic information, including the location, duration, and impacts from oil spills, other hazardous materials, or debris released into the environment. Atlantic Environmental Response Management Application (ERMA®) is an online mapping tool that integrates both static and real-time data, such as Environmental Sensitivity Index maps, ship locations, weather, and ocean currents, in a centralized, easy-to-use format for environmental responders and decision makers. ERMA staff continued to work closely with Federal and State agencies for drills, hurricane response, and incidents. Maintained habitat data for sensitive species. Ensured data was kept up-to-date and data collection methods were kept consistent.

#### **National Ocean Service (NOS) - [Marine Debris Projects and Partnerships](#)**

The NOAA Marine Debris Program (MDP) leads national and international efforts to research, prevent, and reduce the impacts of marine debris. The program supports marine debris removal, education and outreach, and research projects in partnership with state and local agencies, tribes, non-governmental organizations, academia, and industry. The MDP Mid-Atlantic Regional Coordinator supports coordination efforts with regional stakeholders, provides support to grant-funded projects, tracks progress of projects, and conducts regional marine debris outreach to local audiences. In Virginia, the MDP is supporting the Coastal States Stewardship Foundation's efforts, on behalf of the Mid-Atlantic Regional Council on the Ocean, to prevent intentional balloon releases. The MDP is also working with George Mason University to address and prevent single-use plastic bottle usage in collaboration with two high schools in Prince William County. The MDP is partnering with Virginia Institute of Marine Science to examine whether microplastic ingestion increases disease susceptibility in steelhead trout. The MDP is working with stakeholders to develop the Mid-Atlantic Marine Debris Action Plan, which will provide a road map for strategic progress in making the Mid-Atlantic, its coasts, people, and wildlife free from the impacts of marine debris. The MDP continues to work with state and local governments, and other stakeholders, to develop and implement the Virginia Marine Debris Emergency Response Guide.

#### **National Ocean Service (NOS) - Office of Coast Survey - [NOAA Survey Vessel Bay Hydro II](#)**

The Office of Coast Survey operates the NOAA Survey Vessel *Bay Hydro II* to acquire hydrographic survey data off the U.S. Atlantic coast, concentrating primarily in the Chesapeake Bay. The vessel is home-ported in Solomons, Maryland. The *Bay Hydro II* is equipped with state-of-the-art hydrographic and navigation equipment to detect submerged wrecks and obstructions are used to update NOAA's nautical charts in the Chesapeake Bay area. The Office of Coast Survey



also uses the *Bay Hydro II* as its primary platform to test and evaluate new and emerging hydrographic survey technologies like uncrewed systems —multiplying the amount of data NOAA’s survey fleet collects. This vessel is also able to serve as a navigation response team when required.

**National Ocean Service (NOS) - [U.S. Integrated Ocean Observing System \(Mid-Atlantic Regional Association Coastal Ocean Observing System\)](#)**

The U.S. Integrated Ocean Observing System, or IOOS®, is a federally and regionally coordinated observing system with 17 interagency and 11 regional partners. The System addresses regional and national needs for coastal, ocean, and Great Lakes data and information. This includes gathering and disseminating regional observations; data management; modeling and analysis; education and outreach; and research and development. The Mid-Atlantic Regional Association Coastal Ocean Observing System (MARACOOS) is one of the 11 Regional Associations and it extends from Cape Hatteras to Cape Cod including the estuaries and the continental shelf waters. MARACOOS provides the necessary ocean observing, data management, and forecasting capacity to systematically address prioritized regional themes including maritime safety, ecosystem based management, water quality, coastal inundation, and offshore energy development.

**National Weather Service (NWS) - [Buoys](#)**

The National Weather Service (NWS), through its National Data Buoy Center (NDBC), develops, deploys, operates, and maintains the current national data buoy network of moored and drifting weather buoys and land stations that serve all of the Nation’s coastal states and territories. Within this network, 110 of the buoys and 51 of the land stations are maintained directly by NDBC. Located at NASA’s Stennis Space Center in Mississippi, supports weather and marine warning and forecast services in real time by providing deep ocean and coastal meteorological and oceanographic observations. These data provide valuable information used by NWS supercomputers to produce computer-generated model forecasts of the atmosphere and climate. NDBC manages the Volunteer Observing Ship program to acquire additional meteorological and oceanographic observations supporting NWS mission requirements. NDBC also supports operational and research programs of NOAA and other national and international organizations.

---

**[Statewide](#)**

**Office of Oceanic and Atmospheric Research (OAR) – [Virginia Sea Grant College Program](#)**

The National Sea Grant College Program (Sea Grant) is a federal-university partnership administered by NOAA that integrates research, extension outreach, and education. Sea Grant forms a national network of 34 programs in all U.S. coastal and Great Lakes states, Puerto Rico, and Guam. Virginia Sea Grant facilitates research, educational, and outreach activities promoting the sustainable management and use of marine resources. The program, based at the College of William & Mary’s Virginia Institute of Marine Science, involves partners and researchers at other institutions of higher education throughout the Commonwealth. The partners include the University of Virginia, Old Dominion University, Virginia Tech, George Mason University, Virginia Commonwealth University, and James Madison University. Virginia Sea Grant’s Marine Extension Program responds to the needs of marine-based industries and the public, and provides information that increases public understanding of the marine environment. Key topics include developing the skills of Virginia’s future scientists and coastal workforce; working with coastal communities to develop coastal businesses, gain access to university expertise and plan for sea level rise; supporting research to address current scientific needs of Virginia’s commercial fisheries and aquaculture; improving our knowledge of the impacts of land use and climate change on water quality and coastal habitats in the Chesapeake Bay and along Virginia’s Atlantic coast; and helping local seafood businesses supply safe, high quality food to citizens in Virginia and around the world. Administrative offices are located in Gloucester Point, VA. Extension agents are located in Norfolk, Blacksburg, and Williamsburg.

#### **National Weather Service - [NEXRAD \(WSR-88D\) Systems](#)**

NEXRAD is used to warn the people of the United States about dangerous weather and its location. This radar technology allows meteorologists to warn the public to take shelter with more notice than ever before. The NEXRAD network provides significant improvements in severe weather and flash flood warnings, air traffic safety, flow control for air traffic, resource protection at military bases, and management of water, agriculture, forest, and snow removal. NEXRAD radar has a range of up to 250 nautical miles, and can provide information about wind speed and direction, as well as the location, size, and shape of precipitation. There are 159 operational NEXRAD radar systems deployed throughout the United States and overseas, of which three are in Virginia.

#### **National Weather Service (NWS) - [Automated Surface Observing Systems Stations](#)**

The Automated Surface Observing Systems (ASOS) program is a joint effort of the National Weather Service (NWS), the Federal Aviation Administration (FAA), and the Department of Defense (DOD). ASOS serves as the Nation's primary surface weather observing network. ASOS is designed to support weather forecast activities and aviation operations and, at the same time, support the needs of the meteorological, hydrological, and climatological research communities. ASOS works non-stop, updating observations every minute, 24 hours a day, every day of the year observing basic weather elements, such as cloud cover, precipitation, wind, sea level pressure, and conditions, such as rain, snow, freezing rain, thunderstorms, and fog. There are 11 ASOS stations in Virginia.

#### **National Weather Service (NWS) - [Cooperative Observer Program Sites](#)**

The National Weather Service (NWS) Cooperative Observer Program (COOP) is truly the Nation's weather and climate observing network of, by and for the people. More than 10,000 volunteers take observations on farms, in urban and suburban areas, National Parks, seashores, and mountaintops. The data are representative of where people live, work and play. The COOP was formally created in 1890 under the NWS Organic Act to provide observational meteorological data, usually consisting of daily maximum and minimum temperatures, snowfall, and 24-hour precipitation totals, required to define the climate of the United States and to help measure long-term climate changes, and to provide observational meteorological data in near real-time to support forecast, warning and other public service programs of the NWS. The data are also used by other federal (including the Department of Homeland Security), state and local entities, as well as private companies (such as the energy and insurance industries). In some cases, the data are used to make billions of dollars' worth of decisions. For example, the energy sector uses COOP data to calculate the Heating and Cooling Degree Days which are used to determine individuals' energy bills monthly. There are 177 COOP sites in Virginia.

#### **National Weather Service (NWS) - [NOAA Weather Radio All Hazards Transmitters](#)**

NOAA Weather Radio All Hazards (NWR) is a nationwide network of radio stations broadcasting continuous weather information directly from the nearest National Weather Service (NWS) forecast office. NWR broadcasts official NWS warnings, watches, forecasts and other hazard information 24 hours a day, 7 days a week. Working with the Federal Communication Commission's (FCC) Emergency Alert System, NWR is an "All Hazards" radio network, making it the single source for comprehensive weather and emergency information. In conjunction with federal, state, and local emergency managers and other public officials, NWR also broadcasts warning and post-event information for all types of hazards – including natural (such as earthquakes or avalanches), environmental (such as chemical releases or oil spills), and public safety (such as AMBER alerts or 911 Telephone outages). Known as the "Voice of NOAA's National Weather Service," NWR is provided as a public service by the NWS. NWR includes 1,100 transmitters covering all 50 states, adjacent coastal waters, Puerto Rico, the U.S. Virgin Islands, and the U.S. Pacific Territories. There are 12 NWR transmitters in Virginia.

#### **Office of the Chief Information Officer (OCIO) - [Norfolk Regional Center](#)**

The Office of the Chief Information Officer (OCIO) at NOAA's Norfolk Regional Center (IRC) maintains staff (5 federal employees and 3 contractors) and offices to provide support for corporate services such as networking, computing, software and hardware management, and cyber security. In addition, the OCIO at IRC provides select enterprise and

regional IT support services to all of the NOAA Line and Program Offices located in the Pacific region. Our work includes IT infrastructure design and maintenance, network and server management and administration, desktop configuration and maintenance, application and system design and implementation, IT security, and telecommunications.

**Office of the Chief Information Officer (OCIO) - [High Performance Computing and Communications](#)**

The Office of the Chief Information Officer oversees operational high performance computing in partnership with the National Weather Service. NOAA's operational supercomputers process and analyze earth observations at quadrillions of calculations per second to support weather, water, and climate forecast models. The primary supercomputer, Luna, is located in Reston, Virginia, and the secondary supercomputer, Surge, is located in Orlando, Florida.

**NOAA Office of Education - [Environmental Literacy Program](#)**

NOAA's Environmental Literacy Program (ELP), administered by the Office of Education, provides grants and in-kind support to advance NOAA's mission through formal (K-12) and informal education. In Virginia, ELP supports the Blue Crab Bowl in Virginia, one of 25 regional competitions of the National Ocean Sciences Bowl (NOSB). The NOSB is an academic competition that engages high school students in learning about ocean sciences and related STEM careers while helping them become knowledgeable citizens and environmental stewards. ELP supports the American Meteorological Society's DataStreme courses for K-12 educators through a grant and in-kind support. These courses use weather, climate, and the ocean as contexts for teaching science and improving understanding about the Earth system.

**National Marine Fisheries Service (NMFS) - [Greater Atlantic Regional Fisheries Office](#) and [Northeast Fisheries Science Center](#)**

NMFS is responsible for the management, conservation and protection of living marine resources within the United States' Exclusive Economic Zone (water three to 200 mile offshore). Using the tools provided by the *Magnuson-Stevens Act*, NMFS assesses and predicts the status of fish stocks, develops and ensures compliance with fisheries regulations, restores and protects habitat and works to reduce wasteful fishing practices, and promotes sustainable fisheries. Under the *Marine Mammal Protection Act* and the *Endangered Species Act*, NMFS recovers protected marine species. The Greater Atlantic Regional Fisheries Office (located in Gloucester, MA) includes divisions that promote sustainable fisheries, habitat conservation, and recovery of protected species, and conducts statistical analysis and programs supporting these divisions. Key fish species managed in the Greater Atlantic Region include the northeast "multispecies complex" (cod, haddock, yellowtail flounder etc.), Atlantic sea scallops, herring, lobster, and summer flounder. Key marine endangered species in this region are North Atlantic right whales, leatherback, loggerhead, and Kemp's ridley sea turtles, Atlantic salmon and Atlantic and shortnose sturgeon. NMFS is the lead agency coordinating the Large Whale and Sea Turtle Disentanglement Program activities and the Marine Mammal Health and Stranding Response Program activities. The core functions of these programs include coordinating volunteer networks to: respond to entanglements and strandings, investigate mortality events, and conduct biomonitoring, tissue/serum banking, and analytical quality assurance. The Office also fosters sustainable [aquaculture](#) in the region, with two Regional Aquaculture Coordinators that act as a liaison between federal and state agencies to assist in permitting and coordination activities, supporting aquaculture outreach and education, and collaborating with industry, academia and other stakeholders on regional marine aquaculture issues. The Northeast Fisheries Science Center (headquartered in Woods Hole, MA) focuses on collection, analysis, and presentation of scientific information about the Northeast Shelf ecosystem, its condition, and its marine life. In addition to its five laboratories, the Center uses four research vessels to support its work. The Greater Atlantic Regional Fisheries Office and the Science Center are responsible for the District of Columbia and the following states: Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Delaware, Maryland, Virginia, and North Carolina; and the inland states of Vermont, Minnesota, Michigan, Wisconsin, Illinois, Indiana, Ohio, and West Virginia.

**National Marine Fisheries Service (NMFS) - [Restoration Center](#)**

The NOAA Restoration Center, within the Office of Habitat Conservation, works with private and public partners locally and nationwide to increase fisheries productivity by restoring coastal habitat. Projects support sustainable fisheries, help recover threatened and endangered species, and reverse damage from disasters like oil spills, ship groundings, and severe storms. Since 1992, they have provided more than \$750 million to implement more 3,300 coastal habitat restoration projects. The Restoration Center provides funding and technical guidance to restore coastal habitat in Virginia and nationwide. In Virginia, the 2019 Essential Fish Habitat Restoration in the Piankatank River award of \$1.6M will focus on oyster restoration.

**National Marine Fisheries Service (NMFS) and National Ocean Service (NOS) - [Damage Assessment, Remediation, and Restoration Program](#)**

NOAA's Damage Assessment, Remediation, and Restoration Program (DARRP) assesses and restores habitat, fisheries, protected species and recreational uses that have been harmed by oil spills, chemical releases, and ship groundings. Working with federal, state, and tribal entities, and responsible parties, we have recovered funding from responsible parties for restoration of critical habitats, fisheries, protected species and recreational uses nationwide. These projects promote recovery of the ecosystem and provide economic benefits from tourism, recreation, green jobs, coastal resiliency, property values and quality of life.

---

**NOAA In Your State** is managed by [NOAA's Office of Legislative and Intergovernmental Affairs](#) and maintained with information provided by NOAA's Line and Staff Offices. Questions about specific programs or offices should be directed to the NOAA Line or Staff Office listed.

More information for those offices may be found at [NOAA.gov](#).

---